Amendments to the Claims

The following listing of claims replaces all prior versions of the claims in the Application. With reference to the listing it is noted that, herewith, claims 3, 9, 17, and 23 are cancelled without prejudice or disclaimer, claims 1, 2, 4-8, 10-16, 18-22, 24-30 are amended, and new claims 31-34 are added.

Listing of Claims

1. (Currently Amended) A control method for an image input apparatus for reading an original and compressing image data of the read original in real time, said method comprising:

~~a memory area ensuring step of~~ ensuring a memory area for storing compressed image data;

~~a read step of~~ reading an original and outputting image data;

~~a compression step of~~ compressing the image data in real time;

~~a storage step of~~ storing the compressed image data in the ensured memory area ~~ensured in said memory area ensuring step~~;

~~a determination step of determining whether the compressed image data is completely stored in the memory area;~~

~~a compression ratio change step of, when it is determined in said determination step that the image data is not completely stored,~~ changing a compression ratio when the compressed image data is not completely stored in the ensured memory area ~~in the compression step~~;

setting a predetermined number of times; and

~~a repeat step of,~~ when the compression ratio is changed ~~in said compression ratio change step, controlling to repeat said read step, said compression step, and said storage step~~ repeating

the read operation of the same original, the compression operation using the changed compression ratio, and storing of the compressed image data the predetermined number of times.

2. (Currently Amended) The method according to claim 1 further comprising:

~~a measurement step of~~ measuring a data amount of the compressed image data; and

~~a memory area re-ensuring step of, when it is determined in said determination step that the image data is not completely stored,~~ re-ensuing a memory area capable of storing image data in the measured data amount ~~measured in said measurement step~~ or a maximum memory area available when the memory area cannot be ensured when the compressed image data is not completely stored in the ensured memory area,

wherein the measuring of the data amount of the compressed image data and the re-ensuring of the memory area are performed before storing of the compressed image data~~, in said compression ratio change step, the compression ratio for the compression step is changed if it is determined in said determination step that the image data is not completely stored and if the memory area capable of storing the image data having the data amount measured in said measurement step cannot be ensured in said memory area re-ensuring step, and~~

~~said repeat step controls to repeat said read step, said compression step, and said storage step after said memory area re-ensuring step and said compression ratio change step if it is determined in said determination step that the image data is not completely stored~~.

3. (Canceled)

4. (Currently Amended) The method according to claim 1, wherein, in ensuring the ~~said~~ memory

area ~~ensuring step~~, the memory is ensured on the basis of the compression ratio and an original size.

5. (Currently Amended) The method according to claim 1, wherein, in changing the ~~said~~ compression ratio ~~change step~~, the compression ratio is increased by one step.

6. (Currently Amended) The method according to claim 1, wherein, in compressing the image data ~~said compression step~~, JPEG compression is performed.

7. (Currently Amended) A control method for an image input apparatus for reading an original and compressing image data of the read original in real time, said method comprising:

~~a memory area ensuring step of~~ ensuring a memory area for storing compressed image data;

~~a read step of~~ reading an original and outputting image data;

~~a compression step of~~ compressing the image data in real time;

~~a storage step of~~ storing the compressed image data in the ensured memory area ~~ensured in said memory area ensuring step~~;

~~a determination step of determining whether the compressed image data is completely stored in the memory area;~~

~~a resolution change step of, when it is determined in said determination step that the image data is not completely stored,~~ changing a resolution when the compressed image data is not completely stored in the ensured memory area ~~in said read step~~;

setting a predetermined number of times; and

~~a repeat step of,~~ when the resolution is changed ~~in said resolution change step, controlling to repeat said read step, said compression step, and said storage step~~ repeating the read operation of the same original using the changed resolution, the compression operation, and storing of the compressed image data the predetermined number of times.

8. (Currently Amended) The method according to claim 7 further comprising:

~~a measurement step of~~ measuring a data amount of the compressed image data; and

~~a memory area re-ensuring step of, when it is determined in said determination step that the image data is not completely stored,~~ re-ensuring a memory area capable of storing image data in the measured data amount ~~measured in the measurement step~~ or a maximum memory area available when the memory area cannot be ensured when the compressed image data is not completely stored in the ensured memory area,

wherein the measuring of the data amount of the compressed image data and the re-ensuring of the memory area are performed before storing of the compressed image data~~, in said resolution change step, the resolution for said read step is changed if it is determined in said determination step that the image data is not completely stored and if the memory area capable of storing the image data having the data amount measured in said measurement step cannot be ensured in said memory area re ensuring step, and~~

~~said repeat step controls to repeat said read step, said compression step, and said storage step after said memory area re-ensuring step and said resolution change step if it is determined in said determination step that the image data is not completely stored~~.

9. (Canceled)

10. (Currently Amended) The method according to claim 7, wherein, in ensuring the ~~said~~ memory area ~~ensuring step~~, the memory area is ensured on the basis of an original size.

11. (Currently Amended) The method according to claim 7, wherein, in changing the ~~said~~ resolution ~~change step~~, the resolution is decreased by one step.

12. (Currently Amended) The method according to claim 11 further comprising ~~a setting step of~~ setting a width of one-step decrease of the resolution.

13. (Currently Amended) The method according to claim 7, wherein, in changing the ~~said~~ resolution ~~change step~~, the resolution is changed for a color difference component of the image data.

14. (Currently Amended) The method according to claim 7, wherein, in compressing the image data ~~said compression step~~, JPEG compression is performed.

15. (Currently Amended) An image input apparatus comprising:

~~memory area ensuring means for ensuring a memory area for storing compressed image data;~~

a read unit adapted to read ~~means for reading~~ an original and ~~outputting~~ output image data;

a compression unit adapted to compress ~~means for compressing~~ the image data in real

time;

a storage unit adapted to store ~~means for storing~~ the compressed image data ~~in the memory area ensured by said memory area ensuring means~~;

~~determination means for determining whether the compressed image data is completely stored in the memory area~~;

~~compression ratio change means for, when it is determined by said determination means that the image data is not completely stored, changing a compression ratio used by said compression means; and~~

a control unit adapted to ensure in said storage unit a memory area for storing the compressed image data, to change a compression ratio of said compression unit when the compressed image data is not completely stored in the ensured memory area of said storage unit; and ~~means for, when the compression ratio is changed by said compression ratio change means, controlling~~ to repeat the read operation of the same original by said read unit and the compression operation by said compression unit using the changed compression ratio a plural number of times; and

a setting unit adapted to set the plural number of times.

16. (Currently Amended) The apparatus according to claim 15 ~~further comprising~~:

~~measurement means for measuring~~ wherein said control unit measures a data amount of the compressed image data~~;~~, and

~~memory area re-ensuring means for,~~ when ~~it is determined by said determination means that~~ the image data is not completely stored, ~~re-ensuring~~ re-ensures in said storage unit a memory area capable of storing image data in the measured data amount, and ~~measured by said~~

~~measurement means or a maximum memory area available when the memory area cannot be ensured,~~

~~wherein said compression ratio change means changes the compression ratio to be used by said compression means if it is determined by said determination means that the image data is not completely stored and if the memory area capable of storing the image data having the data amount measured by said measurement means cannot be ensured by said memory area re-ensuring means, and~~

~~said control means controls to repeat~~ repeats the read of the same original after the memory area is re-ensured ~~by said memory area re-ensuring means and/or after the compression ratio is changed by said compression ratio change means if it is determined by said determination means that the image data is not completely stored~~.

17. (Canceled)

18. (Currently Amended) The apparatus according to claim 15, wherein said memory area of the storage unit is ensured ~~ensuring means ensures the memory are~~ on the basis of the compression ratio and an original size.

19. (Currently Amended) The apparatus according to claim 15, wherein said ~~compression ratio change means~~ control unit increases the compression ratio by one step.

20. (Currently Amended) The apparatus according to claim 15, wherein said compression ~~means~~ unit performs JPEG compression.

21. (Currently Amended) An image input apparatus comprising:

~~memory area ensuring means for ensuring a memory area for storing compressed image data;~~

a read unit adapted to read ~~means for reading~~ an original and ~~outputting~~ output image data;

a compression ~~means for compressing~~ unit adapted to compress the image data in real time;

a storage ~~means for storing~~ unit adapted to store the compressed image data ~~in the memory area ensured by said memory area ensuring means~~;

~~determination means for determining whether the compressed image data is completely stored in the memory area;~~

~~resolution change means for, when it is determined by said determination means that the image data is not completely stored, changing a resolution used by said read means; and~~

a control unit adapted to ensure in said storage unit a memory area for storing the compressed image data, change a resolution used by said read unit when the compressed image data is not completely stored in the ensured memory area of said storage unit, and ~~means for, when the resolution is changed by said resolution change means, controlling~~ to repeat the read operation of the same original by said read unit using the changed resolution and the compression operation by said compression unit a plural number of times; and

a first setting unit adapted to set the plural number of times.

22. (Currently Amended) The apparatus according to claim 21 ~~further comprising~~

~~measurement means for measuring~~ ~~wherein~~ said control unit measures a data amount of the compressed image data~~,~~; and

~~memory area re-ensuring means for,~~ when ~~it is determined by said determination means that~~ the image data is not completely stored, ~~re-ensuring~~ re-ensures in said storage unit a memory area capable of storing image data in the measured data amount, and ~~measured by said measurement means or a maximum memory area available when the memory area cannot be ensured.~~

~~wherein said resolution change means changes the resolution to be used by said read means if it is determined by said determination means that the image data is not completely stored and if the memory area capable of storing the image data having the data amount measured by said measurement means cannot be ensured by said memory area re-ensuring means, and~~

~~said control means controls to repeat~~ repeats the read of the same original after the memory area is re-ensured ~~by said memory area re-ensuring means and/or after the resolution is changed by said resolution change means if it is determined by said determination means that the image data is not completely stored.~~

23. (Canceled)

24. (Currently Amended) The apparatus according to claim 21, wherein said memory area of the storage unit is ensured ~~ensuring means ensures the memory area~~ on the basis of an original size.

25. (Currently Amended) The apparatus according to claim 21, wherein said ~~resolution change~~

~~means~~ control unit decreases the resolution by one step.

26. (Currently Amended) The apparatus according to claim 25 further comprising a setting unit adapted to set ~~means for setting~~ a width of one-step decrease of the resolution.

27. (Currently Amended) The apparatus according to claim 21, wherein said ~~resolution change means~~ control unit changes the resolution for a color difference component of the image data.

28. (Currently Amended) The apparatus according to claim 21, wherein said compression ~~means~~ unit performs JPEG compression.

29. (Currently Amended) A computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for a control method for an image input apparatus for reading an original and compressing image data of the read original in real time, said product including:

first computer readable program code means of ensuring a memory area for storing compressed image data;

second computer readable program code means of reading an original and outputting image data;

third computer readable program code means of compressing the image data in real time;

fourth computer readable program code means of storing the compressed image data in the memory area ensured by said first computer readable program code means;

~~fifth computer readable program code means of determining whether the compressed~~

~~image data is completely stored in the memory area;~~

~~sixth~~ fifth computer readable program code means of, when ~~it is determined by said fifth computer readable program code means that~~ the compressed image data is not completely stored, changing a compression ratio used by said third computer readable program code means;

sixth computer readable program code means of setting a predetermined number of times; and

seventh computer readable program code means of, when the compression ratio is changed by said ~~sixth~~ fifth computer readable program code means, controlling to execute said second to fourth computer readable program code means using the changed compression ratio.

30. (Currently Amended) A computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for a control method for an image input apparatus for reading an original and compressing image data of the read original in real time, said product including:

first computer readable program code means of ensuring a memory area for storing compressed image data;

second computer readable program code means of reading an original and outputting image data:

third computer readable program code means of compressing the image data in real time;

fourth computer readable program code means of storing the compressed image data in the memory area ensured by said first computer readable program code means;

~~fifth computer readable program code means of determining whether the compressed image data is completely stored in the memory area;~~

~~sixth~~ fifth computer readable program code means of, when ~~it is determined by said fifth computer readable program code means that~~ the compressed image data is not completely stored, changing a resolution used by said second computer readable program code means;

sixth computer readable proem code means of setting a predetermined number of times; and

seventh computer readable program code means of, when the resolution is changed by said ~~sixth~~ fifth computer readable program code means, controlling to execute said second to fourth computer readable program code means using the changed resolution.

31. (New) The method according to claim 2, wherein said changing of the compression ratio is performed when the memory area capable of storing image data in the measured data amount can not be re-ensured, and reading of the same original is repeated after the compression ratio is changed.

32. (New) The apparatus according to claim 1, wherein repeating of the read operation, the compression operation, and the storing of the compressed image data is stopped before repeating the plural number or times when the compressed image data is completely stored in the ensured memory area.

33. (New) The apparatus according to claim 16, wherein said control unit changes the compression ratio of said compression unit when the memory area capable of storing image data in the measured data amount can not be re-ensured in said storage unit, and repeats the read operation of the same original by said read unit after the compression ratio is changed.

34. (New) The apparatus according to claim 15, wherein said control unit stops to repeat the read operation and the compression operation before repeating the plural number of times set by said setting unit when the compressed image data is completely stored in the ensured memory area of said storage unit.